

TheMerckIndex Results - Form View

Monograph number: 06913

Title: Omeprazole

CAS Registry Number: 73590-58-6

CAS Name: 5-Methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole

Manufacturers' Codes: H-168/68

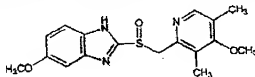
Trademarks: Antra (AstraZeneca); Gastrogard (Meril); Gastroloc (Pharma-Stem); Losoc (AstraZeneca); Mepal (Bracco); Mopral (AstraZeneca); Omepral (Fujisawa); Omeprazen (Malesci); Parizac (Lacer); Pepticum (Andromaco); Prilosec (AstraZeneca); Zoltum (RPR)

Molecular Formula: $C_{17}H_{19}N_3O_3S$

Molecular Weight: 345.42

Percent Composition: C 59.11%, H 5.54%, N 12.16%, O 13.90%, S 9.28%

Literature References: Gastric proton-pump inhibitor. Prepn. U. K. Junggren, S. E. Sjostrand, EP 5129; *idem*, US 4255431 (1979, 1981 both to AB Hassle). Resolution and activity of enantiomers: P. Eriandsson *et al.*, *J. Chromatogr.* **532**, 305 (1990). Manuf process for optically pure salts: S. Von Unge, US 5693818 (1997 to Astra). Pharmacology: P. Muller *et al.*, *Arzneim.-Forsch.* **33**, 1685 (1983). Mechanism of action study: B. Wallmark *et al.*, *Biochim. Biophys. Acta* **778**, 549 (1984). LC of deternm in plasma and urine: P. Lagerstrom, B. Persson, *J. Chromatogr.* **309**, 347 (1984). Survey of preclinical data: *Scand. J. Gastroenterol.* **20**, Suppl 108, 1-120 (1985). Toxicological studies: L. Elman *et al.*, *ibid.* **53**. Clinical trial in Zollinger-Ellison syndrome: C. B. II. W. Lamers *et al.*, *N. Engl. J. Med.* **310**, 758 (1984); in duodenal ulcer: K. Lauritsen *et al.*, *ibid.* **312**, 958 (1985). Veterinary trial in race horses: M. J. Murray *et al.*, *Equine Vet. J.* **29**, 425 (1997). Review of pharmacology and clinical efficacy: H. D. Langry, M. I. Wildc, *Drugs* **56**, 447-486 (1993).



Properties: Crystals from acetonitrile, mp 156°. Freely sol in ethanol, methanol; slightly sol in acetone, isopropanol; very slightly sol in water. LD₅₀ in mice, rats (g/kg): 0.08, >0.05 i.v.; >4, >4 orally (Elman).

Derivative Type: S-Form

CAS Registry Number: 119141-88-7

Additional Names: Esomeprazole; perprazole

Manufacturers' Codes: H-199/18

Literature References: LC-MS deternm in plasma: H. Stenhoff *et al.*, *J. Chromatogr. B* **734**, 191 (1999).Properties: Colorless syrup. [α]_D²⁰ -155° (c = 0.5 in chloroform).

Derivative Type: S-Form magnesium salt

CAS Registry Number: 161973-10-0

CAS Name: (T-4)-Bis[5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolyl]magnesium

Additional Names: esomeprazole magnesium

Trademarks: Nexium (AstraZeneca)

Molecular Formula: $C_{34}H_{40}MgN_6O_6S_2$

Molecular Weight: 713.12

Percent Composition: C 57.26%, H 5.09%, Mg 3.41%, N 11.78%, O 13.46%, S 8.99%

Literature References: Review of clinical experience in acid disorders: D. A. Johnson, *Expert Opin. Pharmacother.* **4**, 253-264 (2003).Properties: White powder. [α]_D²⁰ -128.2° (c = 1 in methanol).

Therapeutic Category: Antulcerative; in treatment of Zollinger-Ellison syndrome.